AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Claims 1-36 have been cancelled.

37.   (Currently amended) A base station for a wireless LAN system realizing band-widening using a plurality of communication channels, the base station comprising:

a plurality of physical layers corresponding to the plurality of communication channels, and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using a corresponding communication channel; and

a media access control (hereinafter, "MAC") layer, wherein the MAC layer includes,

when transmitting,a transmitter control that divides an entire data frame conforming to the IEEE 802.11 standard from a head of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided data frame to the physical layers so that burst times of the communications channels are substantially equal, and

a protocol control that dynamically controls the number of random access slots according to a slot use rate, and

when receiving,a receiver control that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

38.   (Original) The base station according to claim 37, further comprising:

a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

39.   (Original) The base station according to claim 37, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense multiple access/collision avoidance (CSMA/CA) protocol.

DRA/WCJ/rc

40.   (Original) The base station according to claim 37, wherein

for transmission, a frame having a frame length shorter than that of the data frame is not divided and the same frame having a same rate is transmitted to each communication channel, and

for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a transmission side.

41.   (Original) The base station according to claim 37, wherein

if a number of communication channels used is one, the division and the combination are not carried out, and the physical layer corresponding to the used communication terminal transmits and receives the radio signal conforming to the IEEE 802.11 standard.

42.   (Original) The base station according to claim 37, wherein

equal frames are allowed to be transmitted simultaneously using the plurality of communication channels.

43.   (Original) The base station according to claim 37, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a polling control.

44.   (Original) The base station according to claim 37, wherein

the plurality of communication channels are selectable according to a frequency, a space, or a combination of the frequency and the space.

45.   (Original) The base station according to claim 37, wherein

if the plurality of communication channels are used, a division number, a total number of divisions, a Pad insertion method, and information indicating whether a same frame is copied for

the plurality of communication channels are included in the data frame.

46.   (Original) A base station for a wireless LAN system realizing band-widening using a plurality of communication channels, the base station comprising:

a plurality of physical layers corresponding to the plurality of communication channels, and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using a corresponding communication channel; and

a media access control (hereinafter, "MAC") layer,

when transmitting, that divides a part of a data frame conforming to the IEEE 802.11 standard from a head of the part of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided part of the data frame to the physical layers so that burst times of the communications channels are substantially equal, and

when receiving, that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

47.   (Original) The base station according to claim 46, further comprising:

a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

48.   (Original) The base station according to claim 46, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense multiple access/collision avoidance (CSMA/CA) protocol.

49.   (Original) The base station according to claim 46, wherein

for transmission, a frame having a frame length shorter than that of the data frame is not divided and the same frame having a same rate is transmitted to each communication channel, and

for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a transmission side.

50.   (Original) The base station according to claim 46, wherein

if a number of communication channels used is one, the division and the combination are not carried out, and the physical layer corresponding to the used communication terminal transmits and receives the radio signal conforming to the IEEE 802.11 standard.

51.   (Original) The base station according to claim 46, wherein

equal frames are allowed to be transmitted simultaneously using the plurality of communication channels.

52.   (Original) The base station according to claim 46, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a polling control.

53.   (Original) The base station according to claim 46, wherein

the plurality of communication channels are selectable according to a frequency, a space, or a combination of the frequency and the space.

54.   (Original) The base station according to claim 46, wherein

if the plurality of communication channels are used, a division number, a total number of divisions, a Pad insertion method, and information indicating whether a same frame is copied for the plurality of communication channels are included in the data frame.

55.   (Currently amended) A radio terminal for a wireless LAN system realizing band-widening using a plurality of communication channels, the ~~base station~~radio terminal comprising:

a plurality of physical layers corresponding to the plurality of communication channels, and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using a corresponding communication channel; and

a media access control (hereinafter, "MAC") layer, wherein the MAC layer includes,

~~when transmitting,~~a transmitter control that divides an entire data frame conforming to the IEEE 802.11 standard from a head of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided data frame to the physical layers so that burst times of the communications channels are substantially equal, ~~and~~

a protocol control that dynamically controls the number of random access slots according to a slot use rate, and

~~when receiving,~~a receiver control that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

56.   (Original) The radio terminal according to claim 55, further comprising:

a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

57.   (Original) The radio terminal according to claim 55, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense multiple access/collision avoidance (CSMA/CA) protocol.

58.   (Original) The radio terminal according to claim 55, wherein

for transmission, a frame having a frame length shorter than that of the data frame is not divided and the same frame having a same rate is transmitted to each communication channel, and

for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a

transmission side.

59.   (Original) The radio terminal according to claim 55, wherein

if a number of communication channels used is one, the division and the combination are not carried out, and the physical layer corresponding to the used communication terminal transmits and receives the radio signal conforming to the IEEE 802.11 standard.

60.   (Original) The radio terminal according to claim 55, wherein

equal frames are allowed to be transmitted simultaneously using the plurality of communication channels.

61.   (Original) The radio terminal according to claim 55, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a polling control.

62.   (Original) The radio terminal according to claim 55, wherein

the plurality of communication channels are selectable according to a frequency, a space, or a combination of the frequency and the space.

63.   (Original) The radio terminal according to claim 55, wherein

if the plurality of communication channels are used, a division number, a total number of divisions, a Pad insertion method, and information indicating whether a same frame is copied for the plurality of communication channels are included in the data frame.

64.   (Currently amended) A radio terminal for a wireless LAN system realizing band-widening using a plurality of communication channels, the base stationradio terminal comprising:

a plurality of physical layers corresponding to the plurality of communication channels, and each that transmits and receives a radio signal conforming to an IEEE 802.11 standard using

a corresponding communication channel; and

      a media access control (hereinafter, "MAC") layer,

      when transmitting, that divides a part of a data frame conforming to the IEEE 802.11 standard from a head of the part of the data frame, in accordance with a transmission rate of each physical layer, and allots the divided part of the data frame to the physical layers so that burst times of the communications channels are substantially equal, and

      when receiving, that combines data frames received via a plurality of communication channels through operations opposite to those performed when transmitting.

      65.   (Original) The radio terminal according to claim 64, further comprising:

      a determining unit that determines the transmission rate of each communication channel, a frame allotment ratio between the communication channels, and a transmission data amount in each communication channel, for the MAC layer to carry out the allotment and the combination corresponding to the plurality of communication channels.

      66.   (Original) The radio terminal according to claim 64, further comprising:

      a protocol control unit conforming to an IEEE 802.11 standard and using a carrier sense multiple access/collision avoidance (CSMA/CA) protocol.

      67.   (Original) The radio terminal according to claim 64, wherein

      for transmission, a frame having a frame length shorter than that of the data frame is not divided and the same frame having a same rate is transmitted to each communication channel, and

      for reception, if one frame having a frame length shorter than that of the data frame is received normally, the received one frame is recognized as a frame transmitted from a transmission side.

      68.   (Original) The radio terminal according to claim 64, wherein

      if a number of communication channels used is one, the division and the combination are

DRA/WCJ/rc

not carried out, and the physical layer corresponding to the used communication terminal
transmits and receives the radio signal conforming to the IEEE 802.11 standard.

69.   (Original) The radio terminal according to claim 64, wherein

equal frames are allowed to be transmitted simultaneously using the plurality of
communication channels.

70.   (Original) The radio terminal according to claim 64, further comprising:

a protocol control unit conforming to an IEEE 802.11 standard and using a polling
control.

71.   (Original) The radio terminal according to claim 64, wherein

the plurality of communication channels are selectable according to a frequency, a space,
or a combination of the frequency and the space.

72.   (Original) The radio terminal according to claim 64, wherein

if the plurality of communication channels are used, a division number, a total number of
divisions, a Pad insertion method, and information indicating whether a same frame is copied for
the plurality of communication channels are included in the data frame.

73.   (New) A method of transmission used in a transmission device included in a
wireless communication system transmitting a data frame by using a plurality of communication
channels with different transmission rates, the method comprising:

a frame allotment step of diving one data frame corresponding to each of the plurality of
the communication channels so that transmission burst times are substantially equal for the
plurality of communication channels.

DRA/WCJ/rc

74.   (New) A method of transmission used in a transmission device included in a wireless communication system transmitting a data frame by using a plurality of antennas, the method comprising:

a transmission rate determination step of determining a transmission rate for each of the plurality of antennas; and

a frame allotment step of dividing one data frame corresponding to each of the plurality of antennas so that transmission burst times are substantially equal for the plurality of antennas.

75.   (New) A method of transmission used in a transmission device included in a wireless communication system transmitting a data frame by using a plurality of communication channels, the data frame being classified into a first frame or a second frame shorter than the first frame, the method comprising:

a transmission rate determination step of determining a transmission rate for each of the plurality of communication channels; and

a frame allotment step of allotting the date frame divided into the first frame or the second frame to the plurality of communication channels, wherein

if the transmitted data frame is the first frame, the transmission rate determination step includes setting a plurality of transmission rates to the plurality of communication channels, and

the frame allotment step includes dividing one data frame corresponding to each of the plurality of communication channels so that transmission burst times are substantially equal for the plurality of communication channels with set transmission rates, and

if the transmitted data frame is the second frame, the transmission rate determination step includes setting a common transmission rate to the plurality of communication channels, and

the frame allotment step includes allotting the data frame each of the plurality of communication channels.

76.   (New) A method of transmission used in a transmission device included in a wireless communication system transmitting a data frame and a control frame, the method comprising:

                                                              DRA/WCJ/rc

a transmission rate determination step of determining a transmission rate for each of the plurality of communication channels; and

a frame allotment step of allotting the data frame or the control frame to the plurality of communication channels, wherein

if the data frame is transmitted, the transmission rate determination step includes setting plurality of transmission rates to the plurality of communication channels, and

the frame allotment step includes dividing one data frame corresponding to each of the plurality of communication channels so that transmission burst times are substantially equal for the plurality of communication channels with set transmission rates, and

if the control frame is transmitted, the transmission rate determination step includes setting a common transmission rate to the plurality of communication channels, and

the frame allotment step includes allotting the transmitted control frame to each of the plurality of communication channels.

77.   (New) The method according to claim 76, wherein

the control frame includes a Clear To Send Signal.

78.   (New) A transmission device included in a wireless communication system transmitting a data frame by using a plurality of communication channels with different transmission rates, comprising:

a frame allotment unit that divides one data frame corresponding to each of the plurality of communication channels so that transmission burst times are substantially equal for the plurality of antennas.

79.   (New) A transmission device includes in a wireless communication system transmitting a data frame by using a plurality of antennas, comprising:

a transmission rate determination unit that determines a transmission rate for each of the plurality of antennas; and

a frame allotment unit that divides one data frame corresponding to each of the plurality of antennas so that transmission burst times are substantially equal for the plurality of antennas.

80.   (New) A transmission device included in wireless communication system transmitting a data frame by using a plurality of communication channels, the data frame being classified into a first frame or a second frame shorter than the first frame, comprising:

a transmission rate determination unit that determines a transmission rate for each of the plurality of communication channels; and

a frame allotment unit that allots the data frame divided into the first frame or the second frame to the plurality of communication channels, wherein

if the transmitted frame is the first frame, the transmission rate determination unit sets a plurality of transmission rates to the plurality of communication channels, and

the frame allotment unit divides the data frame corresponding to each of the plurality of communication channels so that transmission burst times are substantially equal for the plurality of communication channels with set transmission rates, and

if the transmitted data frame is the second frame, the transmission rate determination unit sets a common transmission rate to the plurality of communication channels, and

the frame allotment unit allots the data frame to each of the plurality of communication channels.

81.   (New) A transmission device included in a wireless communication system transmitting a data frame and a control frame, comprising:

a transmission rate determination unit that determines a transmission rate for each of the plurality of communication channels; and

a frame allotment unit that allots the data frame or the control frame to the plurality of communication channels, wherein

if the data frame is transmitted, the transmission rate determination unit sets a plurality of transmission rates to the plurality of communication channels, and

                                                              DRA/WCJ/rc

the frame allotment unit divides one data frame corresponding to each of the plurality of communication channels so that transmission burst times are substantially equal for the plurality of communication channels with set transmission rates, and

if the control frame is transmitted, the transmission rate determination unit sets a common transmission rate to the plurality of communication channels, and

the frame allotment unit allots the transmitted control frame to each of the plurality of communication channels.

82.   (New) The method according to claim 81, wherein

the control frame includes a Clear To Send Signal.

DRA/WCJ/rc